

REMARKS

Summary of Applicants' Response

Applicants enclose figures 4A and 4B on a replacement sheet marked "prior art."

Applicants thank the Examiner for withdrawing the rejection of claims 1-6 as indefinite for using the term "diamond-like coating."

Applicants have amended independent claims 1 and 4 to include the limitation of a "non-heat generating jig" which is "in cold contact with cold contact tails."

Applicants respectfully traverse the rejection of claims 1-6 as rendered obvious by Applicants' Admitted Prior Art ("AAPA") in view of U.S. Pat. No. 5,359,170 to Chen et al. in further view of the article by Singer.

Claim Rejections Under Section 103

In maintaining the rejection of claims 1-6, the Examiner dismissed Applicants' argument that the prior art does not disclose a "jig to be in contact with cold contact tails" by arguing that "cold contact tail and solder is in contact with the solder [sic] 'during reflow soldering' (as required by claim 1) the instant the hot bar [of Chen] contacts the contact tail and solder to begin the reflow soldering." Office Action at page 4.

Applicants disagree with the Examiner's response to Applicants' argument and respectfully submit that, unlike the *hot bar* apparatus disclosed in Chen--in which a "hot bar is precisely placed over the leads of an integrated circuit and then lowered into contact with all the leads at once," Chen col. 1, lines 44 to 52, and for which one embodiment includes "a thermode for converting an electrical current into heat to effect the temperature of the thermode," *id.* col. 2, lines 30-33--the present application claims a *non heat generating* jig that ensures *cold* contact to the *cold* contact tails to secure the

contact tails against the board. Applicants further disagree with the Examiner's response on the grounds that Chen does not disclose cold contact tails and solder in contact with the jig *during reflow soldering*, since Chen uses an entirely different soldering process, namely, hot bar soldering.

Applicants further respectfully submit that Chen and the AAPA in fact teach away from any combination of these references. The AAPA is directed to a non-heat generating jig for use specifically in reflow soldering. (*See, e.g.*, AAPA paragraph [0001] ("The present invention relates to a jig to be used *in reflow soldering*, and more particularly to a jig capable of being preventing adhesion of solder thereto *in reflow soldering* and a method for connecting connection members by *reflow soldering* using the jig.")). In contrast, Chen uses a heat generating jig for use in hot bar soldering. (*See, e.g.*, Chen col. 1, lines 43 to 52 (Discussing different soldering techniques: "An updated version of the soldering iron is called a *hot bar*. A *hot bar* may have various geometries in order to solder all leads on at least one side at once. Some *hot bar* machines solder all leads of an integrated circuit in one operation. The *hot bar* is precisely placed over the leads of an integrated circuit and then lowered into contact with all of the leads at once. The temperature and amount of heat transferred to the leads are carefully controlled to obtain consistent results")). Since reflow and hot bar soldering are thus presented as being distinct and mutually incompatible soldering techniques in the AAPA and Chen, Applicants respectfully submit that Chen and the AAPA teach away from the combination suggested by the Examiner.

Notwithstanding the Examiner's response to Applicants' argument that the prior art does not disclose or suggest the non-adhesive nature of diamond-like coatings, and

therefore does not meet the claim limitations, Office Action at pages 4 to 5, Applicants respectfully submit that there would not have been any motivation to combine the references in the manner suggested by the Examiner because the twin problems that are presented by the nickel-coated and anodized jig of the AAPA--preventing adhesion between jig and solder and enhancing the corrosion resistance of the surfaces of the jig that contact the solder (Specification [0004])--would not have appeared to be obviously soluble based upon the disclosure of either the heated apparatus with diamond-like coating of Chen--which coating Chen discusses in terms of its increased thermal conductivity and greater wear resistance (Chen Abstract)--or the stress free coating of Singer--in which Singer merely discusses, in general terms, its method of fabrication, morphology, chemical properties and possibly improved resistance to mechanical wear over diamond-like films fabricated using different methods (Singer pages 1 and 2).

Accordingly, Applicants respectfully submit that, since Chen does not disclose or suggest placing cold contact tails and solder in contact with a non-heat generating jig during reflow soldering and the AAPA does not disclose a jig having a diamond-like coating, since the AAPA and Chen in fact teach away from their combination and since there is no motivation to combine Chen and Singer with the AAPA, the proposed combination of Chen, the AAPA and Singer does not disclose or suggest the claimed *non heat generating* jig that ensures *cold* contact to the *cold* contact tails to secure the contact tails against the board during *reflow* soldering, wherein the jig is provided with a diamond-like coating that prevents adhesion between jig and solder, of independent claims 1 and 4. Applicants further submit that it follows that dependent claims 2-3 and 5-6 cannot be rendered obvious by the combination of prior art proposed by the Examiner.

For at least the above reasons, Applicants respectfully submit that the pending claims are in condition for allowance.

CONCLUSION

In view of the above amendment and remarks, Applicants respectfully solicit the allowance of the pending claims. In the event that the application is not deemed in condition for allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,



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